AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A defect signal detecting apparatus for an optical recording/reproducing apparatus, comprising:

a maximum value detecting unit for detecting a highest amplitude among input signals during a maximum value detection period as a maximum value based on a reference maximum value;

a minimum value detecting unit for detecting a lowest amplitude among the input signals during a minimum value detection period as a minimum value based on a reference minimum value;

an asymmetry detecting unit for calculating an amount δ of asymmetry by detecting a maximum value $I_L^{\max}$ and a minimum value $I_L^{\min}$ of a signal I_L that has a maximum periodicity among the input signals, and by detecting a maximum value $I_S^{\max}$ and a minimum value $I_S^{\min}$ of a signal I_S that has a minimum periodicity among the input signals; and

a defect determining unit for determining whether there is a defect in the input signals, using the maximum value, the minimum value and the amount δ of asymmetry,

wherein the defect determining unit determines a defect signal and outputs a corresponding blank signal if a ratio of the maximum value to the minimum value is higher than $1+\Delta-\delta$, or lower than $1-\Delta-\delta$,

where Δ is a margin of the ratio of the maximum value to the minimum value.

2. (original): The defect signal detecting apparatus of claim 1, further comprising a system controlling unit for providing the maximum value detecting unit and the minimum value detecting unit with the maximum value detection period and the minimum value detection period.

3. (original): The defect signal detecting apparatus of claim 1, wherein the amount δ of asymmetry is calculated at the asymmetry detecting unit by an equation,

$$\delta = \frac{\frac{I_L^{\max} + I_L^{\min}}{2} - \frac{I_S^{\max} + I_S^{\min}}{2}}{I_L^{\max} - I_L^{\min}}.$$

4. (canceled).

5. (original): The defect signal detecting apparatus of claim 1, wherein the maximum value detected at the maximum value detecting unit is set to be a reference maximum value for a next maximum value detection period, and the minimum value detected at the minimum value detecting unit is set to be a reference minimum value for a next minimum value detection period.

6. (currently amended): A defect signal detecting method for an optical recording/reproducing apparatus, comprising:

detecting a highest amplitude among input signals during a maximum value detection period as a maximum value based on a reference maximum value;

detecting a lowest amplitude among the input signals during a minimum value detection period as a minimum value based on a reference minimum value;

calculating an amount δ of asymmetry using a detected maximum value $I_L^{\max}$ and a detected minimum value $I_L^{\min}$ of a signal I_L that has a maximum periodicity among the input signals, and using a detected maximum value $I_S^{\max}$ and a detected minimum value $I_S^{\min}$ of a signal I_S that has a minimum periodicity among the input signals; and

determining whether there is a defect among the input signals, using the maximum value, the minimum value and the amount δ of asymmetry,

wherein the defect determining unit determines a defect signal and outputs a corresponding blank signal if a ratio of the maximum value to the minimum value is higher than $1+\Delta-\delta$, or lower than $1-\Delta-\delta$,

where Δ is a margin of the ratio of the maximum value to the minimum value.

7. (original): The defect signal detecting method of claim 6, further comprising determining the maximum value detection period and the minimum value detection period.

8. (original): The defect signal detecting method of claim 6, wherein the amount of asymmetry is calculated by an equation,

$$\delta = \frac{\frac{I_L^{\max} + I_L^{\min}}{2} - \frac{I_S^{\max} + I_S^{\min}}{2}}{I_L^{\max} - I_L^{\min}}.$$

9. (canceled).

10. (original): The defect signal detecting method of claim 6, wherein the maximum value detected is set to be a reference maximum value for a next maximum value detection period, and the minimum value detected is set to be a reference minimum value for a next minimum value detection period.

11. (currently amended): A defect signal detecting apparatus for an optical recording/reproducing apparatus, the apparatus comprising:

a maximum value detecting unit for detecting a highest amplitude among input signals during a maximum value detection period as a maximum value based on a reference maximum value;

a minimum value detecting unit for detecting a lowest amplitude among the input signals during a minimum value detection period as a minimum value based on a reference minimum value;

an asymmetry detecting unit for calculating an amount of asymmetry based on the input signals; and

a defect determining unit for determining whether there is a defect in the input signals, using the maximum value, the minimum value and the amount of asymmetry,

wherein the defect determining unit determines a defect signal and outputs a corresponding blank signal if a ratio of the maximum value to the minimum value is higher than $1+\Delta-\delta$, or lower than $1-\Delta-\delta$,

where Δ is a margin of the ratio of the maximum value to the minimum value.

12. (currently amended): A defect signal detecting method for an optical recording/reproducing apparatus, the method comprising:

detecting a highest amplitude among input signals during a maximum value detection period as a maximum value based on a reference maximum value;

detecting a lowest amplitude among the input signals during a minimum value detection period as a minimum value based on a reference minimum value;

calculating an amount of asymmetry based on the input signals; and

determining whether there is a defect among the input signals, using the maximum value, the minimum value and the amount of asymmetry,

wherein the defect determining unit determines a defect signal and outputs a corresponding blank signal if a ratio of the maximum value to the minimum value is higher than $1+\Delta-\delta$, or lower than $1-\Delta-\delta$,

where Δ is a margin of the ratio of the maximum value to the minimum value.